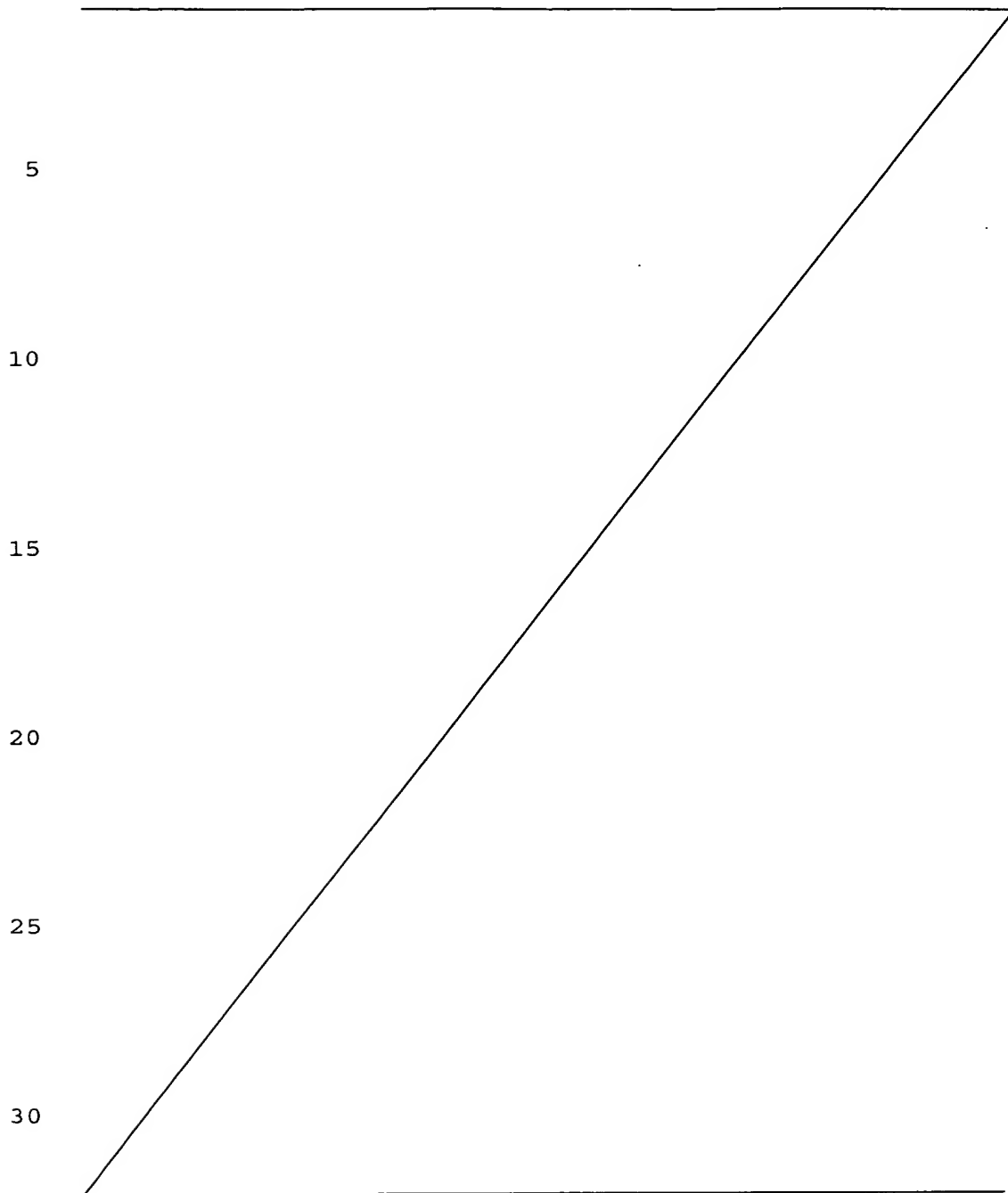


P036650/WO/1

PCT/EP2004/006093



DE 198 43 825 A1 discloses a suspension arm, which is
produced from a tubular body, which in a first step of
the method is initially preformed at one end by means
of a cold-forming process in order to produce a
journal-shaped shoulder, the journal-shaped shoulder

AMENDED SHEET

P036650/WO/1

- 2 -

PCT/EP2004/006093

being formed and then bent towards this end before the shape of the suspension arm is formed by means of hydroforming. The journal-shaped shoulder is formed separately from the shape of the suspension arm.

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The generic US 6,149,198 A1 discloses a control arm arrangement, which comprises hollow formed parts, which are formed with varying cross-sections, the formed parts formed by hydroforming being joined to one another. Separate fixing parts such as bearing bushes are welded or soldered onto the formed parts.

US 6,471,226 B1 discloses a chassis part, which comprises at least two hollow formed parts, which are produced by hydroforming. The one formed part has a connecting area, by means of which it is inserted into a corresponding connecting area of the other formed part and connected thereto.

DE 197 20 133 A1 discloses a motor vehicle rear axle in the form of a compound link rear axle, the axle carrier area of which with transitional area is formed by trimming of a by a hydraulic hydroforming process, the workpiece formed in this way then being welded to longitudinal control arms.

The object of the invention is to specify a Watts strut which can be produced to a high quality with low production costs.

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According to the invention the object is achieved by the features of claim 1.

According to the invention a Watts strut is formed by a strut body, produced by hydroforming, which is formed in one piece and is twisted on itself about a longitudinal axis.

AMENDED SHEET

One advantage is that Watts struts can be formed with high precision and have only a relatively low weight. Various joining operations are dispensed with and
5 problems of corrosion, which can occur with welded parts, are eliminated. These advantages accrue in particular when additional structures, such as a bush for the accommodation of a rubber bearing, are integrally formed in the hydroforming process. A
10 complex Watts strut geometry is furthermore possible.

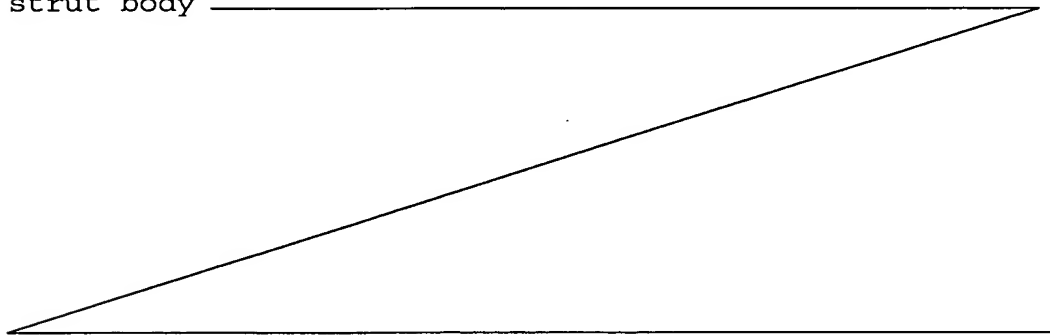
Further advantages and developments of the invention are set forth in the description and in the further claims.

15 The invention is explained in more detail below with reference to a drawing, in which:

Fig. 1 shows a left-hand (Fig. 1a) and a right-hand
20 (Fig. 1b) Watts strut with a suspension link eye and fixing part and

Fig. 2 shows two Watts struts in the fitted position.

25 A left-hand (a) and a right-hand (b) Watts strut are depicted in Fig. 1. The left-hand Watts strut 1 has a long, twisted strut body, at one axial end of which a bearing bush 12 is arranged, and at the other axial end of which a U-shaped end section 11 is arranged. The
30 strut body



New patent claims

1. A Watts strut having a long strut body with a
5 bearing bush (12, 22) arranged at one axial end
thereof, the strut body being produced by hydroforming
and being formed in one piece, **characterized in that**
the strut body is twisted on itself about a
longitudinal axis (L1, L2).
- 10 2. The Watts strut as claimed in claim 1,
characterized in that the strut body in a central area
has a bend (14, 24), which is separated at an angular
distance from the longitudinal axis (L1, L2).
- 15 3. The Watts strut as claimed in claim 1 or 2,
characterized in that the strut body at one axial end
has a bearing bush (12), which is integrally formed in
the hydroforming process.
- 20 4. The Watts strut as claimed in at least one of
the preceding claims, **characterized in that** the strut
body is formed from a light metal.
- 25 5. The Watts strut as claimed in at least one of
the preceding claims 1 to 3, **characterized in that** the
strut body is formed from steel.
- 30 6. The Watts strut as claimed in at least one of
claims 1 to 4, **characterized in that** the strut body is
formed from a hot age-hardening aluminum alloy.

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